

## *Lygodium microphyllum* in South Florida A Summary

*Lygodium microphyllum* (Old World climbing fern), native to Australia, Asia and Africa was first found in Florida in the late 1960s. From its introduction site in Martin county, this exotic twining fern has now spread into more than 27,000 acres of undisturbed south Florida wetlands. Undetected in 1990, *Lygodium microphyllum* now occupies more than 17,000 acres of the Loxahatchee National Wildlife Refuge.

*Lygodium microphyllum* can climb tens of meters into cypress forests, overtop and smother everglades tree islands, and spread horizontally into open wetland marshes. Once established, this plant seriously alters fire ecology. Prescribed burns and wildfires that normally terminate at cypress sloughs in the wet season now continue through. Burning mats of fern break free during fires, and are kited away by heat plumes, leading to distant fire spotting. Additionally, the plant acts as a "ladder" carrying fire into native tree canopies. Preliminary data on spore counts (724 spores/cubic meter/hour) indicates that *Lygodium microphyllum* is capable of long distance dispersal. Plants have recently been discovered in Collier County's Fakahatchee Strand.



Preliminary herbicide trials have resulted in variable control. It seems that several repeat applications will be necessary, and long-term results are not yet available. Investigations into herbicidal and physical control methods need to be explored further in areas where *Lygodium microphyllum* already has a strong foothold. The successful establishment of biological controls will be important in reducing the exponential rate of expansion now occurring in south Florida. The potential for biocontrol of *Lygodium microphyllum* is high due to few native and economic plant conflicts. Preliminary and brief examinations of a few populations in its native range have already identified several natural enemies. Biocontrol is essential if this invader is to be effectively contained, much less controlled.